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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Eric C. Anderson
Serial No. 09/213,131
Filed: 12/15/1998
For: **METHOD AND APPARATUS FOR CORRECTING ASPECT RATIO IN A
CAMERA GRAPHICAL USER INTERFACE**

Examiner: Yogesh K. Aggarwal
Art Unit: 2615

Mail Stop Appeal Brief – Patents
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

An **APPEAL BRIEF** is filed herewith. Appellant also encloses a credit card form authorizing payment in the amount of \$500.00 as required by 37 C.F.R. § 1.17(c). If any additional fees are required in association with this appeal brief, the Director is hereby authorized to charge them to Deposit Account 50-1732, and consider this a petition therefor.

APPEAL BRIEF

(1) REAL PARTY IN INTEREST

The present application is owned by Flashpoint Technology, Inc. whose corporate headquarters are 1130 Situs Court, Suite 216, Raleigh, NC 27606.

(2) RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences to the best of Appellant's knowledge.

(3) STATUS OF CLAIMS

Claims 1-6, 10, 19, and 23-27 were cancelled.

Claims 7-9, 11-18, and 20-22 were rejected with the rejection made final on December 5, 2005.

Claims 7-9, 11-18, and 20-22 are pending and are the subject of this appeal.

(4) STATUS OF AMENDMENTS

All amendments have been entered to the best of Appellant's knowledge.

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(5) SUMMARY OF CLAIMED SUBJECT MATTER

The present invention provides a method and system for correcting the aspect ratio of an image captured by an image capture device, wherein the image capture device is a digital camera. The method comprises determining if the image requires cropping, decompressing the image if required, cropping the image if the image needs cropping, and providing the image to a display. In another aspect of the invention, the cropping step includes cropping an image to a predetermined shape and providing the cropped image to a display buffer. The present invention corrects the aspect ratio of an image regardless of whether the image is a portrait or landscape image, or whether the aspect ratio of an image sensor matches that of a display.

Independent claim 7 recites a method for correcting an aspect ratio of an image captured by an image capture device (Specification, p. 2, line 17 through p. 3, line 4) comprising several steps. The first step is rotating the image, if required, so that the image appears upright on a display of the image capture device (Specification, p. 23, lines 3-6; p. 25, line 22 through p. 26, line 5). Then it is determined if the aspect ratio of the image matches a predetermined aspect ratio (Specification, p. 26, lines 11-13; Figure 12, step 912). The next step is decompressing the image if required (Specification, p. 26, lines 14-16; Figure 12, step 914). If the aspect ratio does not match the predetermined aspect ratio, the image is cropped, thereby providing a cropped image (Specification, p. 26, lines 17-23; Figure 12, steps 916 and 918). The cropped image is provided to the display (Specification, p. 26, lines 16-17; p. 27, lines 1-2; Figure 12, step 920). The image capture device of claim 7 is defined to be a digital camera (Specification, p. 7, lines 6-9; Figure 2, Element 110). The digital camera comprises an imaging device 114, a system bus 116, and a computer 118 (Specification, p. 7, lines 6-7; Figure 2). The imaging device 114 is optically coupled to an object 112 and electrically coupled via system bus 116 to computer 118 (Specification, p. 7, lines 7-9; Figure 2). The imaging device 114 typically comprises a lens 220 having an iris, a filter 222, an image sensor 224, a timing generator 226, and analog signal processor (ASP) 228, an analog-to-digital (A/D) converter 230, an interface 232, and one or more motors 234 (Specification, p. 7, lines 19-23; Figure 3).

Independent claim 15 is similar to claim 1, but is directed to a system for correcting an aspect ratio of an image captured by an image capture device and is written in means plus function format. The elements of claim 15 and their corresponding structure are as follows:

A system for correcting the aspect ratio of an image captured by an image capture unit comprising:

means rotating the image, if required, so that the image appears upright on a display of the image capture device (see Figure 7, background spooling process 618, and specifically image processing and compression process 622, said processes implemented as background processes on CPU 344 (Specification, p. 16, line 14 through p. 17, line 8); see also Specification, p. 23, lines 3-6 and 19-22);

means, coupled with the image rotating means, for determining if the image requires cropping (see Figure 7, conversion and resizing process 616, which may be implemented as a process on CPU 344; see also Figure 12, step 916);

means coupled to the determining means for decompressing the image if required (see Figure 7, conversion and compression process 614, which may be implemented as a process on CPU 344; see also Figure 12, step 914);

means coupled to the decompressing means for cropping the image if the image requires cropping, thereby providing a cropped image (see Figure 7, conversion and resizing process 616, which may be implemented as a process on CPU 344; see also Figure 12, step 918); and

means coupled to the cropping means for providing the cropped image to the display (see Figure 7, live generation process 612, which may be implemented as a process on CPU 344, buffers 538, and LCD screen 402; see also Figure 12, step 920);

wherein the image capture unit is a digital camera (see Figures 2 and 3; Specification, p. 7 line 5 through p. 8, line 7).

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 7-9, 11-18, and 20-22 were properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Parulski et al. (hereinafter "Parulski") in view of Hayakawa et al. (hereinafter "Hayakawa").

(7) ARGUMENT

The Patent Office is improperly combining the references using hindsight to reconstruct the claimed invention using Appellant's disclosure as a template. In particular, the Patent Office

has not provided any evidence to prove the motivation to modify and/or combine the references, and the Patent Office is ignoring that the proposed modification would render the reference unsuitable for its intended purpose. Moreover, even when modified or combined, the references do not teach or suggest each and every limitation of the claims of the present invention.

B. Summary of the References

1. U.S. Patent No. 5,270,831 to Parulski

Parulski is designed and intended to copy analog film such as from a 35 mm camera into digital files. Parulski is directed to an improved storage and retrieval mechanism for a digital image processing system wherein a plurality of photographic images that have been captured on a photographic film strip are digitized for processing and subsequent display. Digitized images are stored on a digital data storage recording medium, such as a compact disc, for playback on a separate image playback device such as a TV monitor. The system digitizes and stores the film images in their captured orientation on the film to obviate the need to physically rotate the film scanning device. In summary, Parulski is designed and intended to copy analog film such as from a 35 mm camera into digital files for playback on a separate device. Notably, Parulski discloses a scanner and a separate playback device and not a digital camera.

2. U.S. Patent No. 5,270,831 to Hayakawa

Hayakawa is directed to a cordless image scanner comprising an image sensor for inputting image data, a rotary encoder, LED and readout window for reading image data, a buffer for storing image data, a LCD display for displaying input image data, a power source, and a memory card for communicating stored image data to a host. The scanner of Hayakawa is portable and can operate anywhere (i.e., it does not need a host computer).

C. The Standards for Establishing Obviousness

Section 103(a) of the Patent Act provides the statutory basis for an obviousness rejection and reads as follows:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious to a person having ordinary skill in

the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Courts have interpreted 35 U.S.C. § 103(a) as being a question of law based on underlying facts. As the Federal Circuit stated:

Obviousness is ultimately a determination of law based on underlying determinations of fact. These underlying factual determinations include: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) the extent of any proffered objective indicia of nonobviousness.

Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH, 139 F.3d 877, 881 (Fed. Cir. 1998) (internal citations omitted).

The burden is on the Patent Office to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.3d 1071, 1074 (Fed. Cir. 1988). “To reach a proper conclusion under § 103, the decisionmaker must step backward in time and into the shoes worn by [a person having ordinary skill in the art] when the invention was unknown and just before it was made.” *Id.* at 1073 (quoting *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566 (Fed. Cir. 1987) (paraphrase in *Fine*’s original text)). “One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.” *In re Fine* at 1075.

The “case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.” *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). “Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor’s disclosure as a blueprint for piecing together the prior art to defeat patentability - the essence of hindsight.” *Ibid.*

The Federal Circuit notes

that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved . . . The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not “evidence.”

Ibid (internal citations omitted). It is worth noting that the *Dembiczak* court specifically acknowledged *Fine*, but emphasized the requirement for actual evidence in proving the motivation to combine the references.

It is further worth noting that where the teachings of two or more prior art references conflict, the examiner must weigh the power of each reference to suggest solutions to one of ordinary skill in the art, considering the degree to which one reference might accurately discredit another. *In re Young*, 927 F.2d 588 (Fed. Cir. 1991); MPEP § 2143.01.

For a *prima facie* case of obviousness, the combination must teach or fairly suggest all the claim elements. *In re Royka*, 490 F.2d 981 (CCPA 1974); MPEP § 2143.03. "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970). If the Patent Office must modify a reference to include a missing claim element, the Patent Office must provide a motivation to modify the reference. Furthermore, the Patent Office must support any such motivation with actual evidence. *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000). If the proposed modification would render the prior art invention unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. MPEP §2143.01; *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984). If the Patent Office fails to establish obviousness, then the Appellant is entitled to a patent. *In re Glaug*, 283 F.3d 1335, 1338 (Fed. Cir. 2002).

D. Claims 7-9, 11-18, and 20-22 Are Non-Obvious Because the Modification or Combination of References is Improper and the Combination Does Not Teach or Suggest Each and Every Element of the Claims

Independent claims 7 and 22 recite that the image capture unit is a digital camera. Neither reference teaches a digital camera. The Patent Office asserts that the scanner of Parulski is analogous to a digital camera (see Final Office Action of December 5, 2005, p. 5, line 6). Appellant disagrees. First of all, no one of ordinary skill in the art would consider a scanner to be a digital camera. Words in a claim must be given their plain meaning. MPEP § 2111.01. Second, the Patent Office has provided no evidence that supports this ill-founded analogy. The Patent Office pointed to col. 4, lines 26-31 and 35-49 of Parulski as supporting the assertion that the scanner teaches or suggests a digital camera. Col. 4, lines 26-31, merely recites that the invention of Parulski may be incorporated into any digitized image processing system. Lines 35-49 merely talk about how film strips are scanned into the scanner. The disclosure that Parulski is

not limited to a particular scanner is irrelevant to whether Parulski discloses a digital camera. The fact is that Parulski does not mention a digital camera at all. For a *prima facie* case of obviousness, the combination must teach or fairly suggest all the claim elements. *In re Royka*; MPEP § 2143.03. The Patent Office seems to be impermissibly trying to ignore the words “wherein the image capture device is a digital camera.” *In re Wilson*, 424 F.2d at 1385. It is clear that neither Parulski nor Hayakawa teach or suggest a digital camera. Therefore, Parulski and Hayakawa do not teach or suggest every limitation of claim 7. As a result, claim 7 is allowable.

The Patent Office is also attempting to modify Parulski to reach the claimed invention. Parulski is designed and intended to copy analog film such as from a 35 mm camera into digital files (see Parulski, col. 2, lines 46-54). Changing the scanner of Parulski into a digital camera involves modifying the reference. The Patent Office is implicitly modifying the scanner to a camera because otherwise the Patent Office has not established *prima facie* obviousness. To modify a reference in an obviousness determination, the Patent Office must first set forth a motivation to modify the reference, and second must support the motivation with actual evidence. *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992); *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000). If the modification makes the reference unsuited for its intended purpose, then the modification is non-obvious. MPEP § 2143.01(V).

The Patent Office in the Advisory Action states that Parulski clearly teaches photographic images, such as images on a film strip 10, are scanned by an opto-electronic film scanner 12 and the scanner outputs digitally encoded data representative of the internal electronic scanning of a high resolution image sensing array onto which a respective photographic image frame of film strip is projected (Advisory Action mailed February 21, 2006, p. 2). The digitally encoded data is coupled in the form of an imaging pixel array-representative bit map (Parulski, col. 4, lines 32-45). The Patent Office then argues that the scanner comprises an image sensing array (e.g. CCD) and an A/D circuit, which are the essential components of a digital camera. (Advisory Action mailed February 21, 2006, p. 2). The Patent Office also points to the fact that the Specification describing the current invention shows the digital camera having an image sensor and an A/D converter and therefore, the digital camera and the digital scanner are equivalent circuits. *Id.* First of all, the digital camera of the present invention comprises an imaging device 114, a system bus 116, and a computer 118 (Specification, p. 7, lines 6-7; Figure 2). The imaging device 114 is

optically coupled to an object 112 and electrically coupled via system bus 116 to computer 118 (Specification, p. 7, lines 7-9; Figure 2). The imaging device 114 typically comprises a lens 220 having an iris, a filter 222, an image sensor 224, a timing generator 226, and analog signal processor (ASP) 228, an analog-to-digital (A/D) converter 230, an interface 232, and one or more motors 234 (Specification, p. 7, lines 19-23; Figure 3). Therefore, in addition to the image sensor 224 and the A/D converter 230, the digital camera of the present invention includes a lens having an iris, a filter 222, a timing generator 226, an analog signal processor (ASP) 228, an interface 232, and one or more motors 234. The fact that the digital camera of the present invention and the digital scanner of Parulski contain some common elements does not mean they are similar devices. It certainly does make Parulski's scanner a digital camera. The Patent Office's argument is based on faulty logic. Just because a device X has elements A, B, C, and D and a device Y has common A and B, it does not follow that X is Y. Likewise, just because the digital camera of the present invention contains an image sensor 224 and an A/D converter 230 and the scanner of Parulski contains an image sensor and an A/D converter, it does not follow that a scanner is a digital camera.

The Patent Office also argues that Parulski teaches that its invention may be incorporated in any digitized image processing system, and this includes any kind of digital circuit, even a digital camera. Once again, the Patent Office's logic is faulty. Just because Parulski states that its invention may be used in any digitized image processing system does not support a reading that this includes any digital circuit. Some digital circuits do not even have image processing capabilities. Likewise, the statement in Parulski does not support a reading of a digital camera and the Patent Office has provided no evidence to support such a reading. As mentioned above, the disclosure that Parulski is not limited to a particular scanner is irrelevant to whether Parulski discloses a digital camera. The fact is that Parulski does not mention a digital camera at all.

As set forth above, the Patent Office has failed to supply evidence that actually supports the implied modification. Thus, the modification is improper. Even if the Patent Office had advanced some evidence to support the implicit modification, this modification remains non-obvious because the modification renders Parulski unsuitable for its intended purpose of copying analog film into a digital file. The Patent Office responded in the Advisory Action that "[i]t is not clear why applicant thinks it would render Parulski unsuitable for its intended purpose of copying analog film into a digital file because the digital camera can be used for exactly the same purpose." (Advisory Action mailed February 21, 2006, p. 2). First, the Patent Office has

offered no support for its assertion that a digital camera can be used to copy analog film into a digital file. Second, the current invention is directed to taking digital pictures of an object in the form of images and manipulating the images before displaying the images on the digital camera's display. If the scanner of Parulski was a digital camera, it would not need to copy analog film strips into a scanner. So if the scanner of Parulski was a digital camera, it would thereby render it unsuitable for its intended purpose.

Since the Patent Office has improperly modified Parulski, Parulski does not teach or suggest a digital camera. Likewise, the Patent Office has pointed to nothing in Hayakawa that teaches or suggests a digital camera. Since the references individually do not teach or suggest the claim element, the combination of references cannot teach or suggest the claim element, and the Patent Office has not established obviousness. Since the Patent Office has not established obviousness, the claims are allowable.

In addition, Parulski fails to teach the claimed steps of "rotating the image, if required, so that the image appears upright on a display of the image capture device" and "providing the cropped image to the display" as recited in claim 7.¹ Parulski teaches a system that scans images from a photographic film strip into a digital image processing system. (Parulski, col. 2, lines 46-51). Then as the images are digitized, a user enters control codes that include orientation and aspect ratio of the scanned film image. (Parulski, col. 2, line 67 through col. 3, line 2; col. 5, lines 63-67). But to display the image, the image data and control files are provided to a separate playback device. Even assuming the scanning device of Parulski is the image capture device, a point which Appellant does not concede, there is no rotating done so that the image appears upright on a display of the image capture device. Only on the playback device is the image displayed upright. Parulski, col. 3, lines 12-19. Thus, the image never appears upright on a display of the image capture device, and the cropped image is never provided to the display of the image capture device, as required by claim 7.

Appellant reads the statements of the Patent Office on p. 5 in the Final Office Action as trying to address the deficiencies of Parulski. The Patent Office states that Parulski teaches a digital scanner and a separate playback device but does not teach if the digital scanner and the playback device are integrated into a separate device. The Patent Office points to Hayakawa as teaching a scanner (Figures 1 and 3) that includes a LCD display 2 for displaying scanned images and an image sensor 51 integrated into one device. (Final Office Action mailed December 5, 2005, p. 5).

¹ Claim 15 has a corresponding means plus function element.

However, even if combined, as set forth above, Parulski and Hayakawa do not teach or suggest wherein the image capture device is a digital camera, as required by the claims.

The dependent claims are allowable at least for the same reasons that the independent claims are allowable.

E. Conclusion

The Patent Office is improperly trying to modify Parulski to arrive at the claimed invention. Even when modified, or combined with Hayakawa, Parulski does not teach or suggest that the image capture device is a digital camera. Nor does the prior art teach or suggest the steps of "rotating the image, if required, so that the image appears upright on a display of the image capture device" and "providing the cropped image to the display" of the image capture device, as recited in the independent claims. Appellant submits that claims 7-9, 11-18, and 20-22 are allowable and requests the Board to instruct the Examiner to allow all pending claims.

Respectfully submitted,
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(8) APPENDIX

1-6. (Cancelled).

7. A method for correcting an aspect ratio of an image captured by an image capture device comprising the steps of:

rotating the image, if required, so that the image appears upright on a display of the image capture device;

determining if the aspect ratio of the image matches a predetermined aspect ratio;

decompressing the image if required;

cropping the image if the aspect ratio does not match the predetermined aspect ratio, thereby providing a cropped image; and

providing the cropped image to the display;

wherein the image capture device is a digital camera.

8. The method of claim 7 wherein the step of cropping the image further comprises the step of:

resizing the image.

9. The method of claim 8 wherein the aspect ratio determining step further comprises the step of:

determining the aspect ratio of the image; and

determining if the aspect ratio of the image matches an aspect ratio of the display.

10. (Cancelled).

11. The method of claim 7 wherein the display is an LCD screen.

12. The method of claim 11 wherein the image is a scrennail image.

13. The method of claim 12 further comprising the step of:

updating the scrennail image with a higher resolution image.

14. The method of claim 13 wherein the step of updating the screcnail image further comprises the step of:
- retrieving the higher resolution image;
 - determining if the higher resolution image requires cropping;
 - decompressing the higher resolution image;
 - cropping the higher resolution image if the higher resolution image requires cropping; and
 - providing the higher resolution image to a display.
15. A system for correcting the aspect ratio of an image captured by an image capture unit comprising:
- means rotating the image, if required, so that the image appears upright on a display of the image capture device;
 - means, coupled with the image rotating means, for determining if the image requires cropping;
 - means coupled to the determining means for decompressing the image if required;
 - means coupled to the decompressing means for cropping the image if the image requires cropping, thereby providing a cropped image; and
 - means coupled to the cropping means for providing the cropped image to the display;
- wherein the image capture unit is a digital camera.
16. The system of claim 15 wherein the decompressing means further comprise:
- means for decompressing and resizing the image.
17. The system of claim 16 wherein the determining means further comprise:
- means for determining the aspect ratio of the image; and
 - matching means coupled to the aspect ratio determining means for determining if the aspect ratio of the image matches an aspect ratio of the display.
18. The system of claim 17 wherein the display is an LCD screen.

19. (Cancelled).
20. The system of claim 15 wherein the image is a scrennail image.
21. The system of claim 20 further comprising:
means for updating the scrennail image with a higher resolution image.
22. The system of claim 21 wherein the means for updating the scrennail image further comprise:
means for retrieving the higher resolution image;
means coupled to the higher resolution image retrieving means for determining if the higher resolution image requires cropping;
means coupled to the higher resolution image determining mean for decompressing the higher resolution image;
means coupled to the higher resolution image decompressing means for cropping the higher resolution image if the higher resolution image requires cropping; and
means coupled to the higher resolution image cropping means for providing the higher resolution image to a display.
- 23-27. (Cancelled).

(9) EVIDENCE APPENDIX

Appellant relies on no evidence, thus this appendix is not applicable.

(10) RELATED PROCEEDINGS APPENDIX

As there are no related proceedings, this appendix is not applicable.

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